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B. Marchetti, A. Walker
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Overview over

WP 10

Use of other novel technologies

WP contributors



Dr. Guoxing Xia

- Lecturer in Accelerator Group of the University of Manchester and staff member at the Cockcroft Institute.
- Working on high gradient wakefield accelerators, including plasma wakefield acceleration driven by proton beam (CERN AWAKE) and electron beam (PARS at CLARA in Daresbury lab), laser wakefield acceleration, dielectric accelerators and ultra-cold atom based electron source.



Dr. Barbara Marchetti

- Staff member in the accelerator R&D group at DESY.
- Currently PI of the ARES linac at SINBAD (DESY, Hamburg), aimed to produce ultra-short electron bunches for external injection into LPWA and other novel accelerators



Dr. Ulrich Dorda

- Staff member in the accelerator R&D group at DESY.
- Having worked on proton synchrotrons in the past at CERN, now focused on setting up a dedicated accelerator R&D facility at DESY (SINBAD).
- Working on acceleration of ultrashort bunches in conventional linacs & acceleration in advanced acceleration schemes like dielectric structures (optical & THz) and plasma acceleration.



Dr. P. Andreas Walker

- PostDoc in the accelerator R&D group at DESY.
- PhD at Oxford University (Prof. S. Hooker) in 2013 in LWFA.
- University of Hamburg working on the beamline from the 200 TW laser system (ANGUS) laser system with the LUX target area, developing plasma targets & laser diagnostics.
- Since 2016 PostDoc at DESY working mainly on Eupraxia

- Grace Manahan from Strathclyde University had helped to generate a first overview over the state of the art in fiber lasers..

Unfunded WP, all participants only 3 to 7 % on the topic.

Status

- Established ~ monthly video-meetings
- Review of fiber lasers
 - Currently focusing on understanding all aspects of fiber lasers & their combination
 - Identify state-of-the art and learn about the world-wide efforts.
 - Looking forward to complete required laser beam parameters
 - ✓ $T > 100\text{fs}$, Higher rep rate interesting
- Review of laser driven dielectric accelerators as alternative injectors.
 - $Q > 10\text{pC}$, $E > 100\text{MeV}$
- Collecting possible additional novel ideas (monitor world-wide efforts)
 - Other uses of dielectrics (de-chirper, energy upgrade with beam driven dielectrics)
 - Ultracold electron sources

Further participants very welcome!